DRAFT

Project Outline
Site Investigation/Remedial Alternatives Study
Fansteel Metals, Muskogee, Oklahoma Facility

1.0 Remedial Investigation Work Plan

Work Plan Preparation - The work plan for the site investigation at the Muskogee, Oklahoma site will be prepared in general accordance with the National Contingency Plan. However, the three documents associated with a remedial investigation - the Sampling Plan, the Health and Safety Plan, and the Quality Assurance Project Plan - will not be prepared as separate documents. These three plans will be incorporated into a single submittal which will be referred to as the Work Plan.

The general extent of the contamination, as well as the actual contaminants, resulting from the Pond No. 3 release is known. Therefore, the scope of the investigation activities will be focused on the Pond No. 3 area and those areas believed to have been impacted by the subject release. Consequently, one objective of the site investigation will be to define the vertical and horizontal extent and magnitude of the contamination associated with the Pond No. 3 release. In addition, the impact of Fansteel Metals operations on soil and groundwater at the site will be evaluated.

The Work Plan will be prepared to:

- Define chronology of events;
- Define sampling objectives, sample types, analytical techniques, sample locations, and other information pertinent to the performance of field activities;
- Address the level of personnel protection requirements, field protocol, decontamination, and personnel responsibilities, along with other information necessary to perform a safe field investigation; and
- Specify procedures for the collection of reliable and defensible data.

1.1 Introduction

- o Site Background Information – data summary / file search
- o Site Location
- o Site Features – land use / physiography
- o Surrounding Land Use
- o Climatology
- o Discussion of Existing Monitoring Data including that relating to Pond No. 3 prior to and after the release
- o Results of Surficial Geophysical Survey – that focused on pond 3 spill.
- o Statement of Project Objectives

1.2 Site Investigation Field Activities

1.2.1 Mobilization

- o Subcontractor Mobilization of Drilling Equipment
- o Establish Earth Sciences Consultants, Inc. Field Support Area
- o Identify Test Boring, Monitoring Well, Surficial Soil, and Surface Water Sampling Locations

1.2.2 Surface Media Investigation

- o Surficial Soil Sampling
- o Sediment Sampling
- o Surface Water Sampling
- o Sampling of French-Drain Fluids

1.2.3 Waste Material Charterization

- o Sampling of Ore/Slag in Pond No. 3
- o Sampling of all other pond contents

1.2.4 Monitoring Well Installation and Sampling

- o Drilling Procedures
- o Subsurface Soil Sampling Procedures in Boreholes
- o Monitoring Well Installation Materials

- o Monitoring Well Installation Procedures
- o Well Development Procedures
- o Groundwater Sampling Procedures
- o Hydraulic Conductivity Testing
- o Equipment Decontamination
- o Analytical Procedures

1.2.5 Existing Monitoring Well Sampling

- o Well Evacuation Procedures
- o Groundwater Sampling Procedures
- o Hydraulic Conductivity Testing
- o Equipment Decontamination
- o Analytical Procedures

1.3 Survey/Preparation of Base Map

1.4 Site Investigation Data Evaluation

- o Data Validation
- o Data Reduction
- o Data Interpretation

1.5 Preparation of Site Investigation Repair and Risk Assessment

1.6 Preparation of Site Health and Safety Plan

1.7 Project Quality Assurance/Quality Control Protocols

- o Field QA/QC Procedures
- o Laboratory QA/QC Procedures

2.0 Remedial Alternatives Study

A remedial alternatives study will be conducted in order to select an appropriate remedial measure to be implemented for Pond No. 3 and other impacted areas, if any. Remedial actions selected through this study process will:

- o Be protective of human health and the environment;

- o Utilize permanent solutions and alternative treatment technologies of resource recovery procedures to the maximum extent practicable; and
- o Satisfy the preference for treatment that reduces the toxicity, mobility, or volume of contaminated materials.

During the subject study, the following seven widely accepted evaluation criteria will be addressed:

- o Overall Protection of Human Health and the Environment
- o Compliance with Applicable or Relevant and Appropriate Requirements
- o Long-Term Effectiveness and Permanence
- o Reduction of Toxicity, Mobility, or Volume
- o Short-Term Effectiveness
- o Ability to be Implemented
- o Cost

2.1 Introduction

- o Purpose
- o Site Description

2.2 Toxicity Assessment

2.2.1 Nature and Extent of Contamination

2.2.2 Exposure Point Concentrations

2.2.3 Conclusion/Identification of Goals and Objectives

2.3 Remedial Alternatives Technology Screening

2.3.1 Introduction

2.3.2 Description of Soil Remedial Technologies

2.3.3 Description of Groundwater Remedial Technologies

2.3.4 Description of Waste Management Technologies

2.4 Development and Evaluation of Remedial Action Technologies

2.4.1 Evaluation Criteria

2.4.2 Soil Remedial Alternatives

2.4.3 Groundwater Remedial Alternatives

2.4.4 Waste Management Alternatives

2.4.5 Prescreeening of Remedial Alternatives

2.5 Selection of Final Remedial Action

2.5.1 Soil Remedial Action

2.5.2 Groundwater Remedial Action

2.5.3 Waste Management Action

3.0 Project Schedule

A project schedule will be presented that covers all elements shown above.